

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANTS: Capon, Daniel J. And Christos John
Petroplous

(ii) TITLE OF INVENTION: Compositions And Methods For
Determining Anti-viral Drug Susceptibility And
Resistance

10 (iii) NUMBER OF SEQUENCES: 105

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Cooper & Dunham LLP

(B) STREET: 1185 Avenue of the Americas

15 (C) CITY: New York

(D) STATE: New York

(E) COUNTRY: United States

(F) ZIP: 10036

20 (v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk

(B) COMPUTER: IBM PC compatible

(C) OPERATING SYSTEM: PC-DOS/MS-DOS

(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

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(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER:

(B) FILING DATE:

(C) CLASSIFICATION:

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(viii) ATTORNEY/AGENT INFORMATION:

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(B) REGISTRATION NUMBER: 28,678

(C) REFERENCE/DOCKET NUMBER: 50130-G/JPW/AKC

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11/11/99 11:11:11

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(2) INFORMATION FOR SEQ ID NO:1:

5

(I) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

10 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

15

AGTGAATTAG CCCTTCCACC CGGGTCGAGC TTGGCGTAAT CA

42

(2) INFORMATION FOR SEQ ID NO:2:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

30

CTGTTGGGAA GGGCGATCTC TAGATGCTAG AGATTTTCCA CA

42

(2) INFORMATION FOR SEQ ID NO:3:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

CTCCTCCTCC AAGTCTGAGC GGCCGCCTTT AGCATCTGAT GCAC 44

10

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 44 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

CTCCTCCTCC AAGTCTGAGC GGCCGCCATA TGGTGTTTTA CTAA 44

25

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 36 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

36

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

32

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

32

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

10 GAATTCTCGC GACCATGGAA GACGCCAAAA AC

32

(2) INFORMATION FOR SEQ ID NO:9:

15 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

25 GTTAACAGAT CTCTCGAGTT ACAATTTGGA CTTTCC

36

(2) INFORMATION FOR SEQ ID NO:10:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 56 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

AGACGGGCAC ACACTACTTA ATACGACTCA CTATAGGGTG AAGCACTCAA 50
GGCAAG 56

5

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 42 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

AAGAGTGACC TGAGGGAAGT TAACGGATAC AGTTCCTTGT CT 42

20

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 42 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

TCCAGCACTG ACTAATTTGT CGACTTGTC ATTCCTCCA AT 42

35

(2) INFORMATION FOR SEQ ID NO:13:

103090" 2005/05/0

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

5 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

10

TAACGCCTAT TCTGCTATGC CGACACCAA TTCTGAAAAT GG

42

(2) INFORMATION FOR SEQ ID NO:14:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

20

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

25

AAGGATACAG TTCCTTGTCG ATCGGCTCCT GCTTCTGAGG GG

42

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

30

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

CTAAAAATAG TACTTTCCGG ATCCCAGCAC TGACTAATTT AT

42

(2) INFORMATION FOR SEQ ID NO:16:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

10

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

15

TTAGCTCCTT CGGTCCTCCA ATCGTTGTCA GAAGTAAGTT GG

42

(2) INFORMATION FOR SEQ ID NO:17:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

25

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

30

GTCCCAGATA AGTGCCAAGG ATTCGTTTAC TAATCGAATG GA

42

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

35

(A) LENGTH: 33 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

GAATTCGTTA ACTTCCCTCA GATCACTCTT TGG 33

(2) INFORMATION FOR SEQ ID NO:19:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

20

GTTAACGTCG ACTTGTTTTCAT TTCCTCCAAT 30

(2) INFORMATION FOR SEQ ID NO:20:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 55 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

30

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

35 GAATTCCGAT CGACAAGGAA CTGTATCCTT TAACTTCCCT CAGATCACTC 50
TTTGG 55

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GTTAACGGAT CCCAGCACTG ACTAATTTAT CTACTTG TTC ATTCCTCCA 50
AT 52

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

GAATTCGTTA ACTTCCCTCA RATCMCTCTT TGG 33

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

5 GTTAACGTCG ACTTKYTCAT TTCCTCCWAT 30

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

10 (A) LENGTH: 55 base pairs
(F) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

GAATTCCGAT CGACAAGGAA CTGTATCCTT TAACTTCCCT CARATCMCTC 50
20 TTTGG 55

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 52 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

GTTAACGGAT CCCAGCACTG ACTAATTTAT CTACTTKYTC ATTCCTCCW 50
35 AT 52

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

ATCTCTTACC TGTCTTATCT AACAGGCCAG GATTAA

36

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

GAATTCTCGC GACCACCATG GCGCGTTCAA CGCTC

35

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

GTTAACAGAT CTTTCATGGCT CGTACTCTAT

30

5

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 72 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

GAATTCGCGC GCAAGCGGCC GCAACCCGGG AAAAGCTTAA GCATGCAACC

50

CGGGAAGAAT TCAATCGCGA AA

72

20

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 72 base pairs

25 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

GTTAACGCGC GCTTCTCGAG TTGCGGCCGC TTGCTAGCTT AGATCTTTGG

50

GCCCTTTCGC GATTGAATTC TT

72

35

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

10

GAATTCAAGC TTGGCCATTG CATACGTTGT

30

(2) INFORMATION FOR SEQ ID NO:32:

15

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

25

GTTAACGCAT GCATAAGAAG CCAA

24

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

30

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

GAATTCGCAT GCTCCCCCTGC TCCGACCCGG

30

(2) INFORMATION FOR SEQ ID NO:34:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

10

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

15

GTAAACGAAT TCTCCTGCGG GGAGAAGCAG

30

(2) INFORMATION FOR SEQ ID NO:35:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

25

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

30

GAATTCAGAT CTGCCATACC ACATTTGTAG

30

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

35

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

5

GTTAACGCTA GCTCCAGACA TGATAAGATA

30

(2) INFORMATION FOR SEQ ID NO:37:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

20

GAATTCGCTA GCATCCCGCC CCTAACTCCG

30

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

25

(A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

GTTAACGTCG ACGCAAAGC CTAGGCCTCC

30

35

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

GAATTCTCGC GAACAGTTGG CCCT

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

GTTAACAGAT CTTTACGCGA ACGCGAAGTC

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 66 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

GTTAACGAAT TCTTGCAAAA AGCTTTGCAA GATGGATAAA GTTTTTAGAA 50
ACTCCAGTAG GACTCC 66

5 (2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 63 base pairs
- (B) TYPE: nucleic acid
- 10 (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

GAATTCTCGC GATCTAGACG TTCTACCTTT CTCTTCTTTT TTGGAGGAGT 50
CCTACTGGAG TTT 63

20

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 35 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

GTTAACGAAT TCCCACCATG ATTGAACAAG ATGGA 35

35

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

10

GAATTCAGAT CTTCAGAAGA ACTCGTCAAG

30

(2) INFORMATION FOR SEQ ID NO:45:

15

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

25

CCCCGTGCCA AGAGTGACTA CGTAAGTACC GCCTATAGA

39

(2) INFORMATION FOR SEQ ID NO:46:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

CTCTGCTTCT CCCCGCAGCT GGAGAATTCA ATCGCGAAA

39

5 (2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 base pairs

(B) TYPE: nucleic acid

10 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

GTAAACGAAT TCCCACCATG AACACGATTA ACATC

35

20 2) INFORMATION FOR SEQ ID NO.: 48

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 base pairs

(B) TYPE: nucleic acid

25 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

CAGGATCCAG ACGTCTGGCG GCCGCCGGTG AAGCTTGGCC CATTGCATAC

50

G

51

35 (2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

10	CCAGGCTCAG ATCTGGTCTA ACCAGAGAGA CCCGGTTCAC TAAACGAGC	50
	T	51

(2) INFORMATION FOR SEQ ID NO:50:

15

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

25

CCCATCTCTC TCCTTCTAGC	20
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2) INFORMATION FOR SEQ ID NO:: 51

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

AGCTTCACCG GCGGCCGCGA CGT

23

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2) INFORMATION FOR SEQ ID NO:: 52

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 15 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

CGCGGCCGCC GGTGA

15

20

2) INFORMATION FOR SEQ ID NO:: 53

(i) SEQUENCE CHARACTERISTICS:

25

(A) LENGTH: 59 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

35

AATTGTCCCT CATATCGCCT CCTCCAGGTC TGAAGATCTC GTCTCCCCGG
GGAGACGCA

50

59

2) INFORMATION FOR SEQ ID NO:: 54

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 47 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

AGAATGAGAA GAGCTGAGCC AGCAGCAGAT GGGGTGGGAG CAGTATC 47

15

2) INFORMATION FOR SEQ ID NO:: 55

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 57 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

TATGCGTCTC CCCGGGGAGA CGAGATCTTC AGACCTGGAG GAGGCGATAT 50

30 GAGGGAC 57

2) INFORMATION FOR SEQ ID NO:: 56

(i) SEQUENCE CHARACTERISTICS:

- 35 (A) LENGTH: 47 base pairs
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

TCGAGATACT GCTCCCACCC CATCTGCTGC TGGCTCAGCT CTTCTCA

47

10

2) INFORMATION FOR SEQ ID NO:: 57

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 70 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

AGCTTGCCTT GAGTGCTTCA ATCTAGAGCC ATACCACATT TGTAGAGGTT

50

25

TTACTTGCTT TAAAAAACCT

70

2) INFORMATION FOR SEQ ID NO:: 58

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 46 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

AACCTCTACA AATGTGGTAT GGCTCTAGAT TGAAGCACTC AAGGCA

46

5

2) INFORMATION FOR SEQ ID NO:: 59

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 68 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

20 CCCACACCTC CCCCTGAACC TGAAACATAA AATGAATGCA ATTGTTGTTA 50
TTAACTTGTT TATTGCAG 68

2) INFORMATION FOR SEQ ID NO:: 60

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

35 ACAACAATTG CATTCAATTT ATGTTTCAGG TTCAGGGGGA GGTGTGGGAG 50
GTTTTTTTAAA GCAAGTAA 68

2) INFORMATION FOR SEQ ID NO:: 61

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

CTTATAATGG TTACAAATAA AGCAATAGCA TCACAAATTT CACAAATAAA 50
GCATTTTTTTT CACTGCAT 68

2) INFORMATION FOR SEQ ID NO:: 62

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

TATTTGTGAA ATTTGTGATG CTATTGCTTT ATTTGTAACC ATTATAAGCT 50
GCAATAAACA AGTTAATA 68

2) INFORMATION FOR SEQ ID NO:: 63

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 base pairs
- (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

TATTTGTGAA ATTTGTGATG CTATTGCTTT ATTTGTAACC ATTATAAGCT 50
GCAATAAACA AGTTAATA 68

10

2) INFORMATION FOR SEQ ID NO:: 64

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 68 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

CCAGACATGA TAAGATACAT TGATGAGTTT GGACAAACCA CAACTAGAAT 50
25 GCAGTGAAAA AAATGCTT 68

2) INFORMATION FOR SEQ ID NO:: 65

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 79 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

CCCTAACTCC GCCCAGTTCC GCCCATTCTC CGCCCCATGG CTGACTAATT 50
TTTTTTATTT ATGCAGAGGC CGAGGCCGC 79

5

2) INFORMATION FOR SEQ ID NO:: 66

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 68 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

TTAGTCAGCC ATGGGGCGGA GAATGGGCGG AACTGGGCGG AGTTAGGGG 50
20 CGGGATGGCG CGCCGGTGT 68

2) INFORMATION FOR SEQ ID NO:: 67

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

35 CTCGGCCTCT GAGCTATTCC AGAAGTAGTG AGGAGGCTTT TTTGGAGGCC 50
TAGGCTTTTG CGGCGCGCCA CCTGCATTA 79

2) INFORMATION FOR SEQ ID NO:: 68

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 68 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

GCCTCCTCAC TACTTCTGGA ATAGCTCAGA GGCCGAGGCG GCCTCGGCCT 50
CTGCATAAAT AAAAAAAAAA 68

15

2) INFORMATION FOR SEQ ID NO:: 69

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 46 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

TCATTAATGC AGGTGGCGCG CCGCAAAGC CTAGGCCTCC AAAAAA 46

30

2) INFORMATION FOR SEQ ID NO:: 70

(i) SEQUENCE CHARACTERISTICS:

- 35 (A) LENGTH: 67 base pairs
(B) TYPE: nucleic acid

(D) TOPOLOGY: linear

5

CTAGAGGGGG AGGCTAACTG AAACACGGAA GGAGACAATA CCGGAAGGAA 50
CCC GCGCTAT GACGGCA 67

15

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

25

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(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

CTTCCGGTAT TGTCTCCTTC CGTGTTTCAG TTAGCCTCCC CCT

43

5

2) INFORMATION FOR SEQ ID NO:: 73

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 44 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

20 GTGGGTTTTTA TTCTGTCTTT TTATTGCCGT CATAGCGCGG GTTC 44

2) INFORMATION FOR SEQ ID NO:: 74

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 46 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

35 CCGGTGGGAC CGAAGCCCGG GTTTATGAAC AAACGACCCA ACACCC 46

2) INFORMATION FOR SEQ ID NO:: 75

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 46 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

AACGGCGGCG GGAAGTTCTC CTGCGTCATC GTCGGGAAGA 40

15

2) INFORMATION FOR SEQ ID NO:: 76

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 42 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

30 CATGTTGCAG GGCCCCTAGG AAAAAGGGCT GTTGGAAATG TG 42

2) INFORMATION FOR SEQ ID NO:: 77

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 base pairs

- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

10 CACTCCATGT ACCGGTTCTT TTAGAATYTC YCTG 34

2) INFORMATION FOR SEQ ID NO:: 78

- 15 (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 66 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

25 CGTTTAGTGA ACCGTCAGAT CGCCTGGAGA CGCCATCCAC GCTGTTTTGA 50
CCTCCATAGA AGACAC 66

2) INFORMATION FOR SEQ ID NO:: 79

- 30 (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 50 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- 35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

AACAGCGTGG ATGGCGTCTC CAGGCGATCT GACGGTTCAC TAAACGAGCT 50

5

2) INFORMATION FOR SEQ ID NO:: 80

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 69 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

CGGGACCGAT CCAGCCTCCG CGGCCGGGAA CGGTGCATTG GAACGCGGAT 50

20

TCCCCGTGCC AAGAGTTAC 69

2) INFORMATION FOR SEQ ID NO:: 81

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

35

TCCGCGTTCC AATGCACCGT TCCCGGCCGC GGAGGCTGGA TCGGTCCCGG 50

TGTCTTCTAT GGAGGTCAA 69

2) INFORMATION FOR SEQ ID NO:: 82

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 66 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

10 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

15 GTAAGTACCG CCTATAGAGT CTATAGGCC ACCCCCTTGG CTTCTTATGC 50
ATGCTCCCCT GCTCCG 66

2) INFORMATION FOR SEQ ID NO:: 83

20

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

30

AAGAAGCCAA GGGGGTGGGC CTATAGACTC TATAGGCGGT ACTTACGTAA 50
CTCTTGGCAC GGGGAA 66

35 2) INFORMATION FOR SEQ ID NO:: 84

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

10

ATCCGGGCTC TCGCCCGCC CGGACCCACA GGCCACCCTC AACCGTCCTG 50
GCCCCGGACC 60

15

2) INFORMATION FOR SEQ ID NO:: 85

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

GAGGGTGGCC TGTGGGTCCG GCGGGCGAG GAGCCCGGAT CGGAGCAGGG 50
GAGCATGCAT 60

30

2) INFORMATION FOR SEQ ID NO:: 86

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 44 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

5

CAAACCCCAC CCCTCACTCT GCTTCTCCCC GCAGCTGAGA TCTG 44

10 2) INFORMATION FOR SEQ ID NO:: 87

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 68 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

CTAGCAGATC TCAGCTGCGG GGAGAAGCAG AGTGAGGGGT GGGGTTTGGG 50
TCCGGGGCCA GGACGGTT 68

25

2) INFORMATION FOR SEQ ID NO:: 88

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 78 base pairs

30 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

CGGGACCGAT CCAGCCTCCG CGGCCGGGAA CGGTGCATTG GAACGCGGAT 50
TCCCCGTGCC AAGAGTTACC TGAGATCT 78

5 2) INFORMATION FOR SEQ ID NO:: 89

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 34 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

CTAGCAGATC TCAGGTAAC TTTGGCACGG GGAA 34

20 2) INFORMATION FOR SEQ ID NO:: 90

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 19 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

CATGGTGGTA GATCTCACA 19

35 2) INFORMATION FOR SEQ ID NO:: 91

- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

191) 5'-AGCTTGTGAGATCTACCAC-3'
(16-mer)

2) INFORMATION FOR SEQ ID NO:: 92

15

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

25

AGATCTCACA CACA

14

2) INFORMATION FOR SEQ ID NO:: 93

30

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

5 AGCTTGTGTG TGAGATCTCC T 21

2) INFORMATION FOR SEQ ID NO:: 94

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 67 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

20 CTAGAGGGGG AGGCTAACTG AAACACGGAA GGAGACAATA CCGGAAGGAA 50
CCGCGCTAT GACGGCA 67

2) INFORMATION FOR SEQ ID NO:: 95

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 66 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

35

ATAAAAAGAC AGAATAAAAC CCACGGGTGT TGGGTCGTTT GTTCATAAAC 50

CCGGGCTTCG GTCCCA

66

2) INFORMATION FOR SEQ ID NO:: 96

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

10 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

15

CTTCCGGTAT TGTCTCCTTC CGTGTTCAG TTAGCCTCCC CCT 43

20

2) INFORMATION FOR SEQ ID NO:: 97

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 base pairs

(B) TYPE: nucleic acid

25 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

GTGGGTTTTA TTCTGTCTTT TTATTGCCGT CATAGCGCGG GTTC 44

35

2) INFORMATION FOR SEQ ID NO:: 98

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

10 CCGGTGGGAC CGAAGCCCGG GTTTATGAAC AAACGACCCA ACACCC 46

2) INFORMATION FOR SEQ ID NO:: 99

15

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 103 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

20

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

25 GAGGCCCCAA GGGGTTATGC TATCTAGAGG TACCACGCGT GAATTCTCGA 50
GGCTAGCAGA TCTCCATGGT ATTATCGTGT TTTTCAAAGG AAAACCACGT 100
CCC 103

30

2) INFORMATION FOR SEQ ID NO:: 100

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

5 GCATAACCCC TTGGGGCCTC TAAACGGGTC TTGAGGGGTT TTTTGCTCAC 50
CGGCGCGCCA CCTGCATTA 69

2) INFORMATION FOR SEQ ID NO:: 101

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 87 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

20 CACGGGGACG TGGTTTTCTT TTGAAAACA CGATAATACC ATGGAGATCT 50
GCTAGCCTCG AGAATTCACG CGTGGTACCT CTAGATA 87

25 2) INFORMATION FOR SEQ ID NO:: 102

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 53 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

TCATTAATGC AGGTGGCGCG CCGGTGAGCA AAAAACCCT CAAGACCCGT 50

TTA

53

5 2) INFORMATION FOR SEQ ID NO:: 103

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 base pairs

(B) TYPE: nucleic acid

10 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

AATTACACCG GCGTCGCCCT ATAGTGAGTC GTATTAGCGG CCGCGACGT 49

20 2) INFORMATION FOR SEQ ID NO:: 104

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 41 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

25 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

30 CGCGGCCGCT AATACGACTC ACTATAGGGC GACGCCGGTG T 41

35 2) INFORMATION FOR SEQ ID NO:: 105

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 base pairs

(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

GTCTGTTGTG TGACTCTGCC CTATAGTGAG TCGTATTACC CTTTGTAGTCA 50

10 GTGTGG 56

GTCTGTTGTG TGACTCTGCC CTATAGTGAG TCGTATTACC CTTTGTAGTCA 50
GTGTGG 56